



Proposed Development at Rodda's Creamery  
Scorrier, Redruth, Cornwall

Archaeological Desk-Based Assessment





**PROPOSED DEVELOPMENT AT RODDA'S CREAMERY  
SCORRIER, REDRUTH, CORNWALL**

**Archaeological Desk-Based Assessment**

Prepared for:  
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## QUALITY ASSURANCE

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**PROPOSED DEVELOPMENT AT RODDA'S CREAMERY  
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**Archaeological Desk-Based Assessment**

**Summary**

Wessex Archaeology was commissioned by A.E.Rodda & Son Limited to carry out an archaeological desk-based assessment of land at Rodda's Creamery, Scorrier, Redruth, Cornwall, hereafter referred to as 'the Site'. The Site is centred on National Grid Reference 171730 044410. The proposed development, which at present is at the pre-application stage, is to comprise new and redeveloped buildings within the factory area, including new silos, relocation of staff car park, with associated landscaping and an anaerobic digestion plant with associated reed beds and infiltration basins on grazing land to the west of the factory.

The Site is located in the vicinity of the Cornwall and West Devon Mining Landscape World Heritage Site and the course of Portreath Plateway, the first Cornish mineral tramway, crosses the Site at north-south alignment. This course will not be altered or obscured by the proposed development and the possible belowground remains associated with the Plateway will not be impacted upon as the proposed new buildings and access tracks are situated outside its boundary.

The single designated heritage asset lying within the Site is a Grade II Chimney stack, related to the Great North Downs mine, which is located in the western part of the Site, in the vicinity of disused mining shafts. The effect of the development proposal on the significance of identified heritage assets and their settings will be a material consideration in determining a planning application. This assessment has established that there is a historic environment interest within the Site.

It has been ascertained that the development will not have an impact on the setting of Cornwall and West Devon World Heritage Site or on Listed Buildings in the wider landscape.

The significance of the historic landscape character (HLC) within the Site would be reduced as a result of the construction and operation of the Scheme. However, it is recognised that this is not a pristine mining landscape and when viewed at the wider scale of the landscape surrounding Scorrier, it is also not rare and is relatively well understood. Overall, on balance the effect on the significance of the HLC is considered to be limited.

A single Listed Building is located within the Site and the present setting of the building is considered to contribute to the significance of the heritage asset. The proposed development may result in a negative impact on this setting. It is advised that a scheme redesign may be necessary to remove Reed Bed #1 from the immediate vicinity of the chimney stack.

The archaeological interest within the Site is defined by known and potential features relating to the mining industry. The aboveground shafts will not be impacted on directly. However, the planned excavation of ponds within the Site would result in a direct impact on potential buried remains. This impact is reduced by the presence of well documented data about the mine's history and development. However, there is a potential for previously unrecorded mining features from earlier periods and for the presence of structural remains related to an engine house within the Site.

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In line with PPS 5 Policy HE6.1, further investigation of the archaeological resource within the Site may be required by the County Archaeologist to inform any planning decision. The need for and scope of any further investigations should be established through consultation with the planning archaeologist for Cornwall Council at the earliest opportunity.

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**Acknowledgements**

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The report was researched and compiled by Julia Sulikowska and the illustrations were prepared by Linda Coleman. Abigail Rolland managed the project on behalf of Wessex Archaeology.



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## **PROPOSED DEVELOPMENT AT RODDA'S CREAMERY SCORRIER, REDRUTH, CORNWALL**

### **Archaeological Desk-Based Assessment**

## **1 INTRODUCTION**

### **1.1 Project Background**

1.1.1 Wessex Archaeology was commissioned by A.E.Rodda & Son Limited (the Client) to carry out an archaeological desk-based assessment of land at Rodda's Creamery, Scorrier, Redruth, Cornwall, hereafter referred to as 'the Site'. The Site is centred on National Grid Reference (NGR) 171730 044410 (**Figure 1**).

1.1.2 The proposed development is to include new and redeveloped buildings and silos within the existing factory compound; a new staff car park in a field immediately to the south-west of the compound, and the anaerobic digestion plant and associated structures in the fields to the west and the north. Minor tree and hedge planting and a footpath diversion are also proposed.

1.1.3 This document is a part of a group of documents, such as Ecological Survey and Landscape and Visual Impact Assessment (Redbay Design 2011, in preparation) and Mining Survey (Crofty Consultancy 2011), which are to accompany the planning application the Client is to submit to the Local Planning Authority (LPA) Cornwall Council.

### **1.2 The Site, Location and Geology**

1.2.1 The Site is located c.1.8km to the north-east of Redruth and consists of an irregular plot of land, measuring approximately 30ha (**Figure 1**). It is bounded to the south by the A30 carriageway and Radnor Road, to the west by a golf club, to the north by fields and a stretch of Portreath Plateway, which is a part of Cornwall and West Devon Mining Landscape World Heritage Site (WHS) and to the east by an industrial estate in Wheal Rose.

1.2.2 The Site eastern part of the Site is at present occupied by the Rodda's Creamery compound. Immediately to the west of the creamery are two barns and an irrigation tank. The remainder of the Site comprises pasture fields.

1.2.3 The Site is situated on north, north-east and east facing slopes with the ground rising from 95m above Ordnance Datum (aOD) along the northern boundary to 130m aOD in the south-western corner of the Site. To the west of the Creamery compound the pasture fields contain the visible remains of historic mine workings and Cornish hedges divide the fields in the southern part of the Site and also define its southern and northern boundaries.

1.2.4 The underlying geology of the Site is recorded as Devonian Porthtowan Formation, comprising interbedded slaty grey and grey-green mudstone and sandstone.

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## 2 METHODOLOGY

### 2.1 Aims and Scope

- 2.1.1 The aim of this assessment is to establish the known and potential historic environment resource within the Site and its environs, which may be affected by the proposed development.
- 2.1.2 The scope of the assessment refers to the *Brief for Archaeological Assessment* (hereafter 'the Brief') issued by Phil Markham of Cornwall Council Historic Environment Service on 4<sup>th</sup> July 2011.

### 2.2 Study Area

- 2.2.1 The recorded historic environment resource within a 500m Study Area around the Site was considered in order to provide a context for the discussion and interpretation of the known and potential resource within the Site (**Figure 1**).

### 2.3 Sources

- 2.3.1 A number of publicly accessible sources of primary and synthesised information were consulted. A brief summary of the sources consulted is given below.

#### ***Historic Environment Record***

- 2.3.2 The Cornwall and Scilly Historic Environment Record (CSHER) maintained by Cornwall Council was consulted for information pertaining to the historic environment resource within the Study Area. The CSHER is a database of all recorded archaeological sites, findspots, archaeological events and historic landscape character areas within the county, and was consulted for this study in August 2011. Information from the CSHER, along with that from the additional sources, has been reviewed and synthesised for the purposes of this report. The CSHER data is summarised in gazetteer format in **Appendix 1**.

#### ***Documentary Sources***

- 2.3.3 A search of other relevant primary and secondary sources was carried out digitally, in the Wessex Archaeology's own library and in the Cornish Studies Library, Redruth. Recent volumes of local journals were consulted, and both published and unpublished archaeological reports relating to excavations and observations in the area around the Site were studied. The sources consulted are listed in the **References** section below.

#### ***Cartographic Sources***

- 2.3.4 A search of historic manuscript and Ordnance Survey (OS) maps was undertaken online and at the Historic Environment Service, Cornwall Council, Truro. Maps and associated historical sources can clarify the archaeological potential of the Site in two ways. Firstly, by suggesting aspects of historic land use prior to any modern development. Secondly, it identifies areas within the Site that, because of that development, are likely to have become archaeologically sterile. All maps consulted in the preparation of this document are listed in **References** below.

## **2.4 Site Visit**

2.4.1 The Site was visited on 19<sup>th</sup> August 2011. The aim of the visit was to assess the general aspect, character, condition and setting of the Site and to identify any potential archaeological features or possible impacts not evident from secondary sources. The weather conditions were sunny and the visibility was good.

## **2.5 Chronology**

2.5.1 Where mentioned in the text, the main archaeological periods are broadly defined by the following date ranges:

- Palaeolithic 650,000-9500BC
- Early Post-glacial 9500-8500BC
- Mesolithic 8500-4000BC
- Neolithic 4000-2200BC
- Bronze Age 2400-700BC
- Iron Age 700BC- AD43
- Romano-British AD43-410
- Saxon AD410-1066
- Medieval AD1066-1499
- Post-medieval 1500-1799
- 19th Century 1800-1900
- Modern 1900-present

## **2.6 Best Practice**

2.6.1 This assessment has been carried out in accordance with the Institute for Archaeologists' *Standard and Guidance for desk-based assessment* (2008).

## **2.7 Assumptions and Limitations**

2.7.1 Data used to compile this report consists of secondary information derived from a variety of sources, only some of which have been directly examined for the purposes of this Study. The assumption is made that this data, as well as that derived from other secondary sources, is reasonably accurate.

2.7.2 The CSHER is not a record of all surviving elements of the historic environment resource, but is a record of the discovery of a wide range of archaeological and historical components. The information held within it is not complete and does not preclude the subsequent discovery of further elements of the historic environment that are, at present, unknown.

## **2.8 Copyright**

2.8.1 This report may contain material that is non-Wessex Archaeology copyright (e.g. Ordnance Survey, British Geological Survey, Crown Copyright), or the intellectual property of third parties, which we are able to provide for limited reproduction under the terms of our own copyright licences, but for which copyright itself is non-transferrable by Wessex Archaeology. You are reminded that you remain bound by the conditions of the Copyright, Designs and Patents Act 1988 with regard to multiple copying and electronic dissemination of the report.

### **3 PLANNING BACKGROUND**

#### **3.1 Policy Framework**

- 3.1.1 There is national legislation and guidance relating to the protection of, and proposed development on or near, important archaeological sites or historical buildings within planning regulations as defined under the provisions of the *Town and Country Planning Act 1990*. In addition, local authorities are responsible for the protection of the historic environment within the planning system.
- 3.1.2 These policies identify the historic environment resource as a non-renewable, fragile and finite resource, the conservation of which accords with the principles of sustainable development, and a priority is placed on its conservation including the setting out of tests to ensure any damage or loss is permitted only where it is properly justified.
- 3.1.3 The overarching national policy covering the effects of development on the historic environment is *Planning Policy Statement 5: Planning for the Historic Environment (PPS5)*. In March 2010, PPS5 replaced previous national policy guidelines (*Planning Policy Guidance 16: Archaeology and Planning (PPG16)* and *Planning Policy Guidance 15: Planning and the Historic Environment (PPG15)*).
- 3.1.4 The Site lies within the administrative area of Cornwall and in the Parish of Redruth. The Site was located within Kerrier District until 1<sup>st</sup> April 2009, when the six District Councils and the County Council formed a unitary authority. Cornwall Council is in the progress of preparing its *Local Development Framework (LDF)*, in accordance with the *Planning and Compulsory Purchase Act 2004*. Kerrier District decided not to proceed with the production of *Kerrier District Local Plan*, a draft of which was published on 4<sup>th</sup> February 2004, due to the creation of the LDF system. In such circumstances, as the LDF documents have not yet been prepared, the national legislation, supported by policies of *Cornwall County Structure Plan*, adopted in 2004, remain in use for the former Kerrier District area. The *Kerrier District Local Plan Revised Deposit Draft* remains a material consideration in the planning process.
- 3.1.5 The national and local policies relevant to the present scheme are outlined in full in **Appendix 2**.

### **4 BASELINE RESOURCE**

#### **4.1 Introduction**

- 4.1.1 The following section provides a summary of the archaeological and historical development of the Site and the Study Area, compiled from the sources listed above. The aim is to establish the known and potential resource which could be affected by the scheme.
- 4.1.2 The archaeological sites and findspots identified are listed in **Appendix 1**. Sites are numbered from **1-32** (from north to south) and have been given a **WA** prefix for ease of reference. An overall illustration of the sites is provided in **Figure 2**.



## 4.2 Statutory and Local Heritage Designations

- 4.2.1 The Site lies c.200m to the north of the main part of Area 6 – The Gwennap Mining District of the Cornwall and West Devon Mining Landscape WHS (List Entry No. 10000105). A c.240m stretch of the Portreath Plateway, which also forms part of the WHS, crosses the eastern part of the Site at roughly north-south orientation (**Figure 1**). Portreath Plateway was an early minerals tramway which connected mines in the Gwennap district, such as Poldice and Great North Downs Mine, to the port in Portreath. Wheal Peavor, a part of WHS Area 5 – The Camborne and Redruth Mining District, is located c.420m to the west of the Site. Wheal Peavor is also the only Scheduled Monument within the Study Area (List Entry No. 1004247).
- 4.2.2 A number of Scheduled Monuments, comprising prehistoric settlements and funerary monuments and the remains of the historic mining industry, are located in the wider landscape. Due to topography, existing land cover, scheme layout and distance from the Site, these designated heritage assets would not be adversely impacted by the scheme, and are not considered further as a part of this assessment.
- 4.2.3 The single designated heritage asset lying within the Site is a Grade II Listed Building (**Figure 1**). The Chimney stack (List Entry No. 1161923), originally part of the Great North Downs mine, is located on the western edge of the Site, close to the extant earthwork remains of disused mining shafts. The brick and granite rubble structure is thought to have been built in the early 19<sup>th</sup> century, or possibly earlier.
- 4.2.4 The listing description for the chimney is as follows: *Isolated chimney stack on site of former Great North Downs Mine. Probably early C19 or earlier. Large blocks of granite rubble brought to courses, and brick. Circular plan. Three short stages successively set back, the top-most of brick with brick cornices at each end..... A small but sturdy structure whose strong visual quality is much enhanced by its now smoothly-grassed and otherwise featureless surroundings*.
- 4.2.5 A further 13 Grade II Listed Buildings are situated within the Study Area, of these seven are associated with former mining activities. Three engine houses (List Entry No.1309826, 1309833 and 1328167) are located within Wheal Peavor Scheduled Monument, to the west of the Site. Further industrial heritage assets comprise engine houses, to the east (List Entry No. 1140975) and to the north of the Site (List Entry No. 1146321), calcining plant (List Entry No. 1253199) to the south of the Site and forge (List Entry No. 1311847), to the east of the Site.
- 4.2.6 The remainder of the Listed Buildings comprise 19<sup>th</sup> century houses, such as Rose House and gate piers (List Entry No. 1141462 and 1141463) to the north of the Site, Glenside (List Entry No. 1141464), to the east of the Site, Corner House (List Entry No. 1142527) and the White House (List Entry No. 1328197), to the south-east of the Site and a milepost (List Entry No. 1162268), to the south of the Site.

### 4.3 Previous Studies

- 4.3.1 The mining heritage of West Cornwall has been the subject of numerous studies. Portreath Plateway and Wheal Peevor were discussed in the *Mineral Tramways Project* (Sharpe *et al* 1990), *Engine House Survey* (Sharpe *et al* 1991) and *Portreath to Poldice Minerals Tramway Archaeological Assessment* (Gossip 2000). Both the Gwennap and the Camborne and Redruth Mining Districts were assessed in advance of the creation of the WHS (World Heritage Site Bid Team 2004a) and a management plan for the WHS has also been prepared for these areas (World Heritage Site Bid Team 2004b). Part of the Site was also included in the *Scorrier WTS and HWRP Assessment* (Historic Environment Service Cornwall County Council 2007)
- 4.3.2 A Mining Survey (Crofty Consultancy 2011) and Landscape and Visual Impact Assessment (Redbay Design 2011, in preparation) were undertaken for the Site in advance of the development.

### 4.4 Archaeological and Historical Context

#### ***Prehistoric, Romano-British and medieval***

- 4.4.1 There are no prehistoric and Romano-British sites or findspots within the Study Area.
- 4.4.2 In the wider landscape, the prehistoric activity is represented by the presence of funerary monuments, such as bowl barrows. Three Bronze Age bowl barrows (List Entry No. 1016057 and 1016355) are located approximately 3km to the north-east of the Site, on a prominent location towards the top of a hill.
- 4.4.3 During the Iron Age and Romano-British periods, rounds, located predominantly on hill slopes, were the common type of settlement in Cornwall. These sites had a form of an embanked univallate enclosure and are considered to have been of agricultural and, in case of larger features, defensive function (Raymond and Darvill 1988, Todd 1987). In the vicinity of the Site, two rounds (List Entry No. 1019608 and 1019744) are located c.2km and 3km to the north.
- 4.4.4 The tradition of metal ore exploitation is an important element of Cornish heritage. Although exploitation of Cornish tin sources in the prehistoric period, from the second millennium BC onwards, has been suggested in a number of sources (Craddock and Craddock 1996, Sharpe *et al* 1990, Todd 1987), the archaeological evidence for prehistoric mining is scarce and is usually recognised in the form of artefacts rather than mining or production sites. The low number of recorded prehistoric mining sites, however, does not necessarily mean that during this early period the local tin ore was not exploited, as it could have been sourced from alluvial deposits within stream beds (Craddock and Craddock 1996, Gerrard 2000).
- 4.4.5 Cornish stream working for tin and trade with the Mediterranean region was mentioned by Diodorus in the 1<sup>st</sup> century BC (Buckley 2000, World Heritage Site Bid Team 2004a). It is likely that stream mining of tin continued in the Romano-British period, however, it might have been of a local scale. This situation changed in the Late Romano-British period, as a result of reduction

of tin mining in Spain. Increased interest in stream obtained tin in western and central Cornwall is evident in Roman finds, found in vicinity of tin bearing stream beds and in the increased production of pewter objects in the south-west of England (Todd 1987).

- 4.4.6 The settlement activity of medieval date in the vicinity of the Site is represented by the medieval settlement of Scorrier (**WA20**), c.220m to the south-east of the Site, which is first mentioned in documentary sources in 1331. Its name is thought to have derived either from Latin *scoria*, which means 'slag' or Bretton *scor*, meaning 'branch'.
- 4.4.7 The exploitation of tin from stream beds continued in the medieval period and Cornwall became the world's major supplier of this metal (Sharpe 1990, World Heritage Site Bid 2004). The importance of tin mining was recognised by the Crown. In 1201, King John composed a charter, which gave privileges to tanners and the mining industry in return for a special tax. There were four areas of jurisdiction in Cornwall, known as Stannaries, and the tax was collected in a designated Stannary town (Buckley 2000, World Heritage Site Bid Team 2004a).

#### ***Post-medieval and Modern***

- 4.4.8 As stream sources became exhausted, exploitation of the parent lodes commenced, initially from near surface outcrops and, from 15<sup>th</sup> century onwards, from shafts. Shaft mining also allowed exploitation of copper, however the earliest recorded copper mining dates to the late 16<sup>th</sup> century (Bailey 1982, Gerrard 2000m Sharpe 1990).
- 4.4.9 Early shaft mining was undertaken in open-cast trenches called 'goffen works', which were up to 20m deep. Later, horizontal levels were dug through the lodes in order to acquire metal ore. Initially, the water was drained from the workings by adits and man-operated pumps. From the late 17<sup>th</sup> century, water powered pumps were in use. Gunpowder was employed to drive adits and crosscuts, which reduced significantly time and labour previously required (World Heritage Site Bid Team 2004a).
- 4.4.10 The most significant period in metalliferous mining in Cornwall and West Devon was between 1700 and 1914. During that time, former stream workings were replaced by underground lode mining and coal fuelled smelting was introduced. The invention of steam powered pumping is an indicator of the beginning of the Industrial Revolution in the region. During the 18<sup>th</sup> century, the exploitation of copper became crucial and by 1750 ore mined in Cornwall and West Devon dominated the world's markets. The industrial infrastructure, in the form of numerous tramways, was developed in the early 19<sup>th</sup> century. Between the late 18<sup>th</sup> century and the mid-19<sup>th</sup> century, a wide range of metals was exploited apart from copper and tin, including silver, lead, zinc and arsenic. The industrial development was followed by population growth, establishing new settlements and expansion of local estates. Cornish mining technology and skills were widely distributed across the world as the mining population emigrated in order to establish mines elsewhere in the world towards the end of 19<sup>th</sup> century. The 20<sup>th</sup> century saw a slow decline in the mining industry in Cornwall and the last working mines were closed in 1998 (World Heritage Site Bid Team 2004a).

- 4.4.11 The Site is located within an area known as Great North Downs mine, which forms the northern boundary of the Gwennap Mining District and is bounded to the west by Wheal Peevor (**Figure 1**), of the Camborne and Redruth Mining District and to the east by Wheal Rose (**WA2**) of the St Agnes District. The Gwennap District, centred on Poldice mines near St Day, was the richest mining area in Cornwall in the late 18<sup>th</sup> and early 19<sup>th</sup> centuries, exploiting mainly copper ore.
- 4.4.12 During the 18<sup>th</sup> century, drainage problems became serious as the engines in use were not powerful enough to pump water from deep levels and proved expensive to run. Mines, including Great North Downs mine, were forced to rework shallower levels, which were easier to drain (Buckley 2005). In 1748, the construction of Great County Adit began, initially to drain the Poldice mines. In due course, the drainage system was extended and by 1778 incorporated Wheal Busy, Hallenbeagle Mine (Williams 2001), Great North Downs Mine and Wheal Peevor (Buckley 2000, Hamilton Jenkin 1962a).
- 4.4.13 In order to reduce the costs of transport of ore, coal and timber between the mines in Gwennap District and the ports along the coast, a horse-drawn plateway was constructed in 1809 between Poldice mines, though Great North Downs mine, to the port in Portreath. It was the first mineral tramway in Cornwall (Gossip 2000, Sharpe *et al* 1990) and its course is designated as part of Gwennap Mining District WHS. Redruth to Chacewater railway, opened in 1826, joined the mines in the southern part of the Gwennap parish to the harbour at Devoran on the south coast (Sharpe *et al* 1990).
- 4.4.14 The mining population, working in hazardous conditions, were attracted to the message of Methodism and numerous chapels were constructed for the local communities. These included mid-19<sup>th</sup> century chapels in Wheal Rose (**WA1**), Radnor (**WA24**) and Scorrier (**WA17**). Mid-19<sup>th</sup> century nonconformist chapels were also built in Radnor (**WA23**) and Scorrier (**WA18**).
- 4.4.15 Scorrier railway station (**WA21**) opened in 1852, as a part of the West Cornwall Railway. A number of bridges associated with the railway are also recorded (**WA16, 19, 22, 15** and **27**). Wheal Rose milestone (**WA8**) is no longer extant.
- 4.4.16 The 1819 Thomas' map of mining in Gwennap and Redruth, which is the earliest cartographic depiction of the area consulted for this assessment (not reproduced), indicates a number of early 19<sup>th</sup> century mines in the vicinity of the Site. The Gwennap District mines within the Study Area extant at that date were Hallenbeagle mine (**WA7**), which was later worked within the Wheal Busy workings, located to the east of the Site, North Treskerby mine (**WA32**) with associated shafts (**WA28, 30** and **31**) and Wheal Chance (**WA26**) to the south and Wheal Boys (**WA29**) to the south-west. Scorrier mine (**WA13**), about which there is little information, was also located within the Gwennap Mining District.
- 4.4.17 Immediately to the north-west of the Site, late 18<sup>th</sup> century mines, known as Wheal Briggan (**WA6**) and North Briggan (**WA4**) were located and are



shown of Thomas' map. The shafts of North Briggan mine extend into the northernmost part of the Site, which will not be affected by the development.

- 4.4.18 In the St Agnes parish, to the north-east of the Site, Trewan mine (**WA3**), shown on the 1819 Thomas' map, was located.
- 4.4.19 The area of Great North Downs mine (**WA9**) has a long mining history and comprised numerous small individual workings. The earliest recorded mine in this area is Wheal Variah, granted in 1701 to Gabriel Wayne of Gloucestershire, who pioneered the revival of copper smelting. He is known to have searched for copper lodes within the area (Hamilton Jenkin 1962b). A blowing house (**WA11**) is associated with the mines within North Downs, and is thought to have been extant at the beginning of the 18<sup>th</sup> century.
- 4.4.20 In the 18<sup>th</sup> century, mines known as Wheal Hawke (**WA5**), South Wheal Hawke (**WA15**), Wheal Rose (**WA2**) and Wheal Messer (**WA14**) were also worked within Great North Downs mine and in the 1730s, it is thought to have been the largest copper mine in Cornwall (Sharpe 1993). In 1754, these mines employed two coal fuelled engines, which were expensive to run. The need to reduce the cost of drainage of the mines resulted in incorporation of the mines to the Great County Adit system in 1778 (Hamilton Jenkin 1962b).
- 4.4.21 Wheal Messer was an old tin mine (Buckley 2000) and lost its significance during the 19<sup>th</sup> century as Great North Downs mine took over workings in this area. Wheal Hawke, an old tin mine, switched to copper exploitation in the early 18<sup>th</sup> century and, during the 18<sup>th</sup> and the 19<sup>th</sup> centuries, was often closed and reopened (Buckley 2000).
- 4.4.22 The North Downs mines stopped working in 1802 (Hamilton Jenkin 1962b). After the closure, a new company was formed in 1861 and Great North Downs mine operated between 1862 and 1897, producing mainly copper and tin (Burt *et al* 1987). In 1865, the mine was managed by Mr Francis Pryor and a 60-inch pumping engine and a 24-inch crushing engine were recorded within the mine (Spargo 1865). Towards the end of 19<sup>th</sup> century, two steam engines, a 70-inch and an 80-inch, were in use. South Wheal Hawke was incorporated into the new company.
- 4.4.23 During the Second World War development within the Study Area comprised a possible Heavy Anti-Aircraft battery site (**WA10**), construction of which was probably never completed. Moreover, South Wheal Hawke mine is thought to have been reworked as a wolfram mine in 1938 and during the Second World War (Scorrier mine, **WA12**).

## 4.5 Mining Features within the Site

- 4.5.1 An understanding of the layout of features associated with Great North Downs mine within the Site is possible through the review of early Ordnance Survey maps, which show features as they appeared soon after the mine's closure, (1886, 1908, **Figure 3**, and later); features visible on later aerial photographs recorded by the National Mapping Programme (NMP) plot (**Figure 4**); and the Mining Survey (Croftly Consultancy 2005). These sources all show extensive works within the Site, including several lines of shafts, smaller extraction pits, likely prospecting pits or openworks, a

number of structures which might be the remains of huts or shelters and the remains of the chimney.

- 4.5.2 The extant shafts within the Site follow a general northeast to southwest alignment and are known to have been located between the outcrops of Great North Downs Main Lode to the north and Pendarves Lode to the south. A number of the shafts (**Appendix 3**) had their names recorded, which might indicate the presence of certain equipment in their vicinity. *Vivians Engine Shaft* (Crofty Consultancy 2005) was located c.90m to the north of the extant chimney stack, within the present golf course. It is likely that an engine house was located nearby. Within the Site are the remains of *Lemons Whim Shaft* (Crofty Consultancy 2005). This name indicates that a whim structure, used for hauling materials from mine levels to the surface, was located by the shaft but no visible remains of a whim structure are visible today.
- 4.5.3 Twelve shafts are still recognisable within the Site. They survive as large mine waste tips, with shaft collar at its summit, often overgrown with vegetation. The survival of the shafts was enabled by walling of the shafts on abandonment (South-West Mining Services Limited 2000). Remnants of such walls were observed in *Lemons Whim Shaft* and Shaft 12 (**Appendix 3, Plate 1**).
- 4.5.4 The lodes in the area of Great North Downs mine are known to have been exploited by openworks, in the form of pits or narrow gullies. Openworks were located at the back of the lodes and excavated up to 10-20m below the surface (South-West Mining Services 2000). Numerous cut features present on the NMP plot might be the remains of openworks, although none of these features are extant at present.
- 4.5.5 Extensive mining resulted in creation of numerous dumps of waste material, extents of which were mapped on the NMP plot and, to some extent, shown on the Ordnance Survey mapping. Due to the 20<sup>th</sup> century levelling, the large waste dumps do not survive in the landscape, the only exception being the waste tips surrounding the shafts.
- 4.5.6 The only built structure relating to the mining industry surviving within the Site is a Grade II Listed chimney stack located at the western end of the Site (**Plate 2**). It is thought to have been constructed at the beginning of the 19<sup>th</sup> century, or earlier. The remnants of the engine house, with which the chimney would have been associated, are no longer extant, but may be located to the north of the chimney, where a rectangular structure is mapped on the NMP plot. The NMP plot also indicates a number of structures to the north-east of the chimney. No remains of these structures are visible during the site visit but these were likely the remnants of working huts or shelters.
- 4.5.7 The Ordnance Survey maps locate an engine house in a field to the north of main factory compound, outside the Site limits, which is no longer extant. A coal yard is also shown on the map, adjacent to the Portreath Plateway. The site of the coal yard is located within the modern factory compound, and no remains of the structure survive above ground (Gossip 2000).

- 4.5.8 From the area surrounding the chimney stack within the Site, a number of other extant engine houses are visible, and these include Wheal Rose, North Treskerby and Hallenbeagle (Wheal Busy) all of which are Grade II Listed Buildings (**Figure 1, Plate 3**). Due to topography, Wheal Peavor mine is not visible from the Site.

## **5 DISCUSSION**

### **5.1 Potential Development Impacts**

- 5.1.1 The management and mitigation of change to the heritage resource resulting from development is based on the recognition of Government planning objectives that '*heritage assets are a non-renewable resource*' (PPS5 para. 7). Impacts to the historic environment and its associated heritage assets arise where changes are made to their physical environment by means of the loss and/or degradation of their physical fabric or setting, which in turn leads to a reduction in the significance of the historic environment and its heritage assets.

#### ***Proposed Development***

- 5.1.2 The proposed development within the main factory compound is to comprise the redevelopment of an existing factory building, erection of two new buildings within an area presently used as a car park to accommodate office space and refrigeration facilities and the construction of new silos, to the east of the factory building. A small section of access road will be constructed across a field, to simplify lorry access from the Site entrance towards the proposed Anaerobic Digestion (AD) plant.
- 5.1.3 The staff car park is proposed to be moved to a field to the south-west of the factory compound. A new road, serving the car park, is proposed to join the existing infrastructure to the south-east of the car park. A combination of tree species is proposed to be planted within the car park and its south-western and north-eastern boundaries will be marked by newly planted Cornish hedges and tree belt.
- 5.1.4 The below ground anaerobic digesters are to be located within an area landscaped by tippings from the A30 carriageway construction to the south-west of the existing barns (Redbay Design 2011). New Cornish hedges, with associated woodland belt, are proposed to screen the site from the north, west and south.
- 5.1.5 Ten reed beds are to be located within the large pasture field to the north of the AD plant. The reed beds are proposed to measure between approximately 24m x 47m and 48m x 51m and will be planted with selected local floating and submergent species. The construction of these beds includes excavation into the slope at the higher end and introduction of made up ground at the lower end. At the highest point, the excavation is not likely to exceed 0.6m. However, as the proposed open water zones are to be 1.2m deep, over 0.3m of pond soil, it is likely that in places the necessary construction works might exceed 1m. The reed beds will be connected to the AD plant and the infiltration basins by a system of buried pipes and open channels.

- 5.1.6 Two infiltration basins, measuring approximately 58m x 87m, are to be located to the north east of the reed beds, one within the same pasture field, the other in an adjacent field. The excavation will be undertaken to a depth between 0.9m and 1.2m.
- 5.1.7 It is suggested that the remainder of the area is to retain its pastoral character and will be replanted, if necessary, with species rich grassland, with areas of willow scrub. The hedge alongside the western boundary of the Site will be replanted to fill in gaps in the existing hedge.

### **Identified Impacts**

- 5.1.8 Construction of new buildings and silos will introduce new features in the landscape. The new structures are not proposed to be elevated above those already existing within the factory and the highest new buildings, the silos, are proposed to be of same height as the existing silos.
- 5.1.9 Groundworks and excavations associated with the construction might impact on potential buried archaeological resource. It is likely that the survival of archaeological remains within the factory compound has been severely reduced by the extensive 20<sup>th</sup> century creamery development. However, it is considered that the excavation of ponds, anaerobic digesters and associated water channelling could result in damage or loss to the archaeological resource that may exist relating to the historic mining industry.
- 5.1.10 The introduction of new features, such as reed beds, into the landscape will result in the change of the current historic landscape character within the Site.

## **5.2 Identification of sensitive heritage assets**

- 5.2.1 This assessment has established that a number of heritage assets are located within the Site and its immediate vicinity. This section of the report aims to establish the degree to which those heritage assets would be sensitive to the changes/impacts arising from the proposed development. Those changes include ground disturbance during construction and the visibility of the scheme during its operational phase.

### **The World Heritage Site**

- 5.2.2 In the vicinity of the Site there are three separate areas of the Cornwall and North Devon Mining Landscape WHS (**Figure 1**).
- 5.2.3 Wheal Peevor (Area 5ii of Camborne and Redruth Mining District) is located c.420m to the west of the Site. It is separated from the Site by topography, including a heavily landscaped modern golf course. There is no intervisibility between the Site and this designated heritage asset and therefore it is considered that the proposed development will have no impact on the WHS.
- 5.2.4 Gwennap Mining District (Area 6i) is located c.200m to the south of the Site. The woodland plantations associated with Scorrier House are visible from the Site and mark the northern edge of the WHS area. The WHS is separated from the Site by the A30 and its associated landscaping, the railway line and a modern industrial estate. Due to the topography, extensive

wooded character of the landscape within the southern part of the Site and its immediate surroundings, along with the modern development along the A30, it is considered that the Site does not form part of the setting of this WHS area.

- 5.2.5 Overall it is considered that Wheal Peevor and Area 6i of the Gwenapp Mining District of the WHS would not be sensitive to any construction or operational impacts resulting from the scheme.
- 5.2.6 Portreath Plateway was Cornwall's first mineral tramway connecting mines in the Gwennap Mining District to the port at Portreath. The line of the tramway crosses the Site at north-south alignment, immediately to the east of the main factory building within a designated corridor. There are no physical aboveground remains of the tramway within the Site and its original surroundings in the area were altered in the 20<sup>th</sup> century by the construction of the creamery. The proposed new buildings in this area of the Site would not impinge upon or obscure the course of the Plateway nor result in a substantial change to the present layout or visual appearance of the area. Therefore, the Portreath Plateway is not considered to be sensitive to the impacts of the proposed development.

### **Historic Landscape Character**

- 5.2.7 The Historic Landscape Character of the central area of the Site is defined by the CSHER as *Modern Enclosed Land (Figure 2)*. This zone is described as land enclosed in the ancient or post-medieval period, whose field systems have been substantially altered by large-scale hedge removal in the 20<sup>th</sup> century, creating large and open fields. The wider surroundings of the Site and the southern and northern fields within it are defined as *Post-medieval Enclosed (Figure 2)*. It comprises land enclosed between the 17<sup>th</sup> and 19<sup>th</sup> century, usually from land that was previously Upland Rough Ground or medieval commons. On the eastern side of the Site the area of the present factory compound is defined as *Settlement: C20* and is linked to modern industrial development within Scorrier and Wheal Rose.
- 5.2.8 The Historic Landscape Character (HLC) within the Study Area is typical of the wider region where a functioning agrarian landscape has developed in and around the relict mining landscape. The boundaries of modern development are clear and defined and mainly comprise light industrial areas, the road corridor and modern settlement.
- 5.2.9 In this context HLC is strongly influenced by the visible remains of the historic mining activity and on this basis within the bounds of the Site it is considered that the landscape has a limited capacity to absorb change and is identified as a sensitive heritage asset.

### **Listed buildings**

- 5.2.10 Of the 13 Grade II Listed Buildings situated within the Study Area, eleven are screened from the Site by topography or modern development and therefore are not considered to be sensitive to the predicted changes associated with the proposed development.

- 5.2.11 Two Listed Buildings, Engine House at Read's Shaft and Wheal Rose Engine House, are visible from the Site. These Listed Buildings exist within their own local contexts and the significance of each structure is informed in part by associated structures and landscapes within their immediate vicinities. However, they also and derive some of their significance from the aesthetic of their place within a wider group of intervisible chimneys, including the chimney stack within the Site. This wider group aesthetic would be sensitive to the construction of buildings/structure which would compete with or detract from the visual association of the chimneys. However, as all elements of the proposed development within the Site will take place at ground level or within the context of existing buildings existing views between these heritage assets would not be altered and therefore these Listed Buildings in the wider landscape are also not considered to be sensitive to the predicted impacts.
- 5.2.12 The Grade II Listed chimney stack is located within the area proposed for the installation of the AD system and reed beds. No direct impacts to the physical form of the structure are predicted however there could be a change to the setting of the Listed structure and therefore it is identified as a sensitive heritage asset.

### ***Potential archaeological remains***

- 5.2.13 Archaeological remains both preserved as above ground features and potential buried deposits could be directly affected by excavations associated with the construction of the proposed scheme. Consequently, they are considered to be sensitive heritage assets.

## **5.3 Significance of sensitive heritage assets**

- 5.3.1 In line with the requirement of the Brief this section of the report sets out the significance of the heritage assets identified as likely to be effected by the proposals. The assessments are based on existing and emerging guidance and professional judgement.
- 5.3.2 PPS5 Annex 2 defines a heritage asset as: '*A building, monument, site, place, area or landscape positively identified as having a degree of significance meriting consideration in planning decisions. Heritage assets are the valued components of the historic environment. They include designated heritage assets (World Heritage Sites, Scheduled Monuments, Protected Wreck Sites, Listed Buildings, Registered Parks and Gardens, Registered Battlefields or Conservation Areas) and assets identified by the local planning authority during the process of decision-making or through the plan-making process (including local listing)*'.
- 5.3.3 Significance of a heritage asset is defined in Annex 2 of PPS5 as: '*The value of a heritage asset to this and future generations because of its heritage interest. That interest may be archaeological, architectural, artistic or historic*'.
- 5.3.4 Policy HE6.1 of PPS5 states that '*Local planning authorities should require an applicant to provide a description of the significance of the heritage assets affected and the contribution of their setting to that significance.*' This

is further discussed in the accompanying *Practice Guide* (English Heritage 2010).

5.3.5 PPS5 Annex 2 defines the setting as: *'The surroundings in which a heritage asset is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance or may be neutral.'*

5.3.6 *Setting of the Heritage Assets: English Heritage Guidance* is currently being prepared to accompany PPS5, and is currently at consultation stage. This document considers the issues relating to the views to or from the designated heritage asset. Paragraph 23 states that: *'The setting of any heritage asset is likely to include a variety of views of, across, or including that asset, and views of the surroundings from or through the asset.'*

5.3.7 *Conservation Principles*, a guidance published by English Heritage (2008) also discusses the significance of places within the historic environment. It defines the significance as *'The sum of the cultural and natural heritage values of a place, often set out in a statement of significance.'* These values are defined as:

- Aesthetic: *'Value deriving from the ways in which people draw sensory and intellectual stimulation from a place.'*
- Communal: *'Value deriving from the meanings of a place for the people who relate to it, or for whom it figures in their collective experience or memory.'*
- Evidential: *'Value deriving from the potential of a place to yield evidence about past human activity.'*
- Historical: *'Value deriving from the ways in which past people, events and aspects of life can be connected through a place to the present.'*

5.3.8 The following section will discuss the significance of the identified heritage assets, potentially affected by the proposed development. These include the Historic Landscape Character, the listed chimney stack and the potential archaeological remains within the Site. As established above, World Heritage Site, Scheduled Monuments, Listed Buildings within the wider Study Area will not be assessed, as they are not considered to be sensitive to the predicted changes resulting from the proposed development.

#### ***Historic landscape character***

5.3.9 The significance of the Historic Landscape in the context of the wider region is directly informed by the aesthetic, evidential and historical values the surviving components provide. These components include the historic field patterns, lanes, settlements and historic mining remains. The adjacent WHS areas define landscapes which are considered to be the best examples of the historic mining archaeological and historic landscape resource within Cornwall and North Devon. Whilst the Site is not included within the WHS its HLC has a strong mining aesthetic making it easily recognisable and connecting it to the history of Scorrier and its associated mines.

- 5.3.10 Even though many of the original mining features within the Site have been lost to 20<sup>th</sup> century landscaping, there still remains an evidential value of the HLC when taken in the context of its place in the wider region and the contribution its survival could make to future study. Overall the HLC is a heritage asset of regional significance.

***Listed Building within the Site - chimney stack***

- 5.3.11 Designated heritage assets are, by virtue of their selection for designation, considered to be exceptional examples of their type and therefore their value is implicit and impacts to the form and setting strictly controlled. However, in order to understand the nature of any impacts arising from the proposed development it is important to understand the values which underpin the significance of the designated heritage asset. In this particular instance the extent to which the setting of the Listed chimney contributes to its significance is of key consideration.
- 5.3.12 The chimney stack (List Entry No. 1161923), related to Great North Downs mine, is located in the western part of the Site, in the vicinity of disused mining shafts. The *List Entry Description* highlights the visual (aesthetic) values of the chimney, stating: '*A small but sturdy structure whose strong visual quality is much enhanced by its now smoothly grassed and otherwise featureless surroundings*'.
- 5.3.13 Although the original function of the chimney is still discernable the loss of its immediate original associated features (buildings, spoil tips etc) to 20<sup>th</sup> century landscaping within the Site has, to some extent, degraded its historical context. Indeed, when viewed from the north-east (typical view for footpath users), the immediate setting of the heritage asset includes a heavily landscaped golf course and farm buildings. However, its original context is not completely lost as there is a clear visual link between it and the line of disused mineshafts which survive as distinctive features in the landscape to east of the Chimney (**Plate 4**). Overall, the setting of this designated heritage asset is considered to be a key factor in terms of its overall significance.

***Archaeological Remains***

- 5.3.14 The Site is situated within an area occupied in the 18<sup>th</sup> and 19<sup>th</sup> centuries by Great North Downs mine. The known archaeological resource within the Site comprises shafts, surviving aboveground as mine waste heaps with stone collars at the top of variable condition. The potential buried archaeological remains within the Site are likely to comprise other mining features, such as blocked shafts, prospection pits, openworks and structures, such as engine houses or shelter huts.
- 5.3.15 The archaeological resource can be of importance in the absence of written records, as the evidential value of the remains allow the study of past human activity. In the case of the Great North Downs mine, the majority of the information about its history comes from written records, which survive from the 18<sup>th</sup> century onwards (Hamilton Jenkin 1962b). This data is strengthened by the NMP plot, which indicates the location of particular shafts within the mine, with associated waste heaps and trackways, no longer visible in the landscape.



- 5.3.16 The importance of several types of features has been recognised. The engine house, associated with the chimney stack, would have been located to the north of the chimney, as marked on the NMP plot. Its function and construction are not known and therefore such information would add valuable data to the history and operation of the mine. Moreover, the NMP plot indicates several circular structures to north-east of the chimney. Their function is not fully understood and at present they are presumed to have been shelters or huts for ore sorting. Finally, even though the 18<sup>th</sup> and 19<sup>th</sup> century mining features are well recorded in documentary sources, the presence and survival of previously unrecorded mining remains of earlier date cannot be excluded. Such remains are likely to be in the form of prospection pits and openworks in the vicinity of lode outcrops.
- 5.3.17 The Site was subject to heavy landscaping during recent years (Andrew Rodda *pers. comm.*) which is thought to have been associated with the construction of the A30 carriageway and may have comprised large scale levelling and tipping of material excavated from the road into part of the Site. The levelling of the ground within Site is evident in the present landscape, as numerous features visible on the 1940s aerial photographs are no longer extant. It is not possible to assess, though, whether they were in-filled and sealed or damaged by the activity. However, it seems that the A30 tipping was limited to a much smaller area, in the vicinity of the barns.
- 5.3.18 There is also a possibility for the survival of archaeological features, likely related to post-medieval field boundaries visible on Ordnance Survey maps, in the car park area. Within the factory compound, however, the potential for the survival of archaeological remains has been reduced by the extensive 20<sup>th</sup> century creamery development.
- 5.3.19 Notwithstanding the impact on the survival that the previous development and landscaping of parts of the Site will have had, by virtue of their association with the heritage resource upon which the basis of the adjacent WHS is founded it is considered that archaeological remains relating to the mining resource within the Site will be of at least regional significance.

#### **5.4 Assessment of Impact**

- 5.4.1 This desk-based assessment has established that there is a historic environment interest within the Site. This interest is defined as a Listed chimney stack, the Historic Landscape Character and the known aboveground and potential buried archaeological remains relating to the mining industry..

##### ***Historic Landscape Character***

- 5.4.2 The installation of the reed beds and infiltration ponds would mark a change to the HLC within the Site. As the HLC is, at its most local scale, defined by the remnants of the mining landscape of disused shafts within a grazed pasture landscape the insertion of the reed beds and pond in amongst this landscape will effect the historic and evidential values of the historic landscape and to some extent may reduce its significance. However, the HLC type in the wider area is relatively common and well understood and therefore these factors combine to limit the severity of the impact on the HLC resulting from the development of the proposed scheme.

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**Listed Building within the Site - chimney stack**

- 5.4.3 This assessment has established that the immediate setting of the chimney could be sensitive to the proposed development
- 5.4.4 The immediate surroundings of the chimney comprises, at present, modern farmland with extant mining features. These surroundings have been reworked and no longer represent the original, industrial setting of the structure. Moreover, to the west of the Site, the redesigned landscape of the golf course has compromised the featureless setting of the chimney. However, the grazing land within the Site and the remains of shafts visible across the field create visually attractive scenery for the Listed Building, which has been defined as a value important to the significance of the structure.
- 5.4.5 The proposed works include the excavation of two reed beds in the immediate vicinity of the chimney (**Figure 5**), one c.38m to the north-east (Reed Bed #2) and immediately to the north of the extant *Rulers Shaft*, the other c.3m to the north of the chimney (Reed Bed #1). The remaining reed ponds would be partially visible from the chimney and, more importantly, will form a foreground to the view of the chimney from the bottom of the slope to the north-east.
- 5.4.6 The close proximity of the ponds to the chimney would result to in a modern and out of character feature in its immediate setting which could reduce the *aesthetic* values that inform its setting, and thus in turn reducing the significance of the heritage asset.
- 5.4.7 The impact pondered Bed #1, located in a flat grassed area to the north of the chimney, is considered to be the area of most severe impact. At present it forms the foreground of the view from public footpath towards the chimney. This area is thought to have been the site of the associated engine house and the introduction of a pond feature in this place will considerably alter the landscape context of the chimney. It is considered that the negative effect of the construction of this pond on the setting of the designated heritage asset could be partially mitigated by its relocation to the west which would allow a buffer zone of unchanged landscape in the immediate vicinity of the chimney.

**Archaeological Remains**

- 5.4.8 This assessment has established that the archaeological interest within the Site is defined by the known and potential features related to the post-medieval mining industry.
- 5.4.9 The aboveground remains comprise shafts with associated waste heaps. The proposed development does not intend to impact on the existing structures.
- 5.4.10 The belowground archaeological resource is likely to comprise mining remains associated with the 18<sup>th</sup> and 19<sup>th</sup> century mine, which are thought to be well understood because of documentary and cartographic sources. The more fragile group of archaeological features might include the possible remains of an engine house associated with the chimney stack, in the location of Reed Bed #1, a group of circular structures, which could be

shelter huts, in the location of Reed Beds #4 and #6 and of unrecorded mining features from earlier periods, which, if present, would have been located near lode outcrops, alongside the northern and southern boundaries of the field.

- 5.4.11 Groundworks and excavations associated with the construction of reed beds and infiltration basins might impact on the buried archaeological remains where they are present. In such circumstances, the loss of or damage to any surviving archaeological features could be satisfactorily mitigated by way of a standard archaeological recording at the appropriate stage in the development project or by relocation of the abovementioned ponds to a less archaeologically sensitive area.
- 5.4.12 Within the car park area, the proposed works may impact on archaeological resource, if/where present, which is likely to be related to post-medieval farming practices. In such case, the loss of or damage to any surviving archaeological features could be satisfactorily mitigated by way of a standard archaeological recording at the appropriate stage in the development project.

## **6 CONCLUSIONS**

- 6.1.1 The effect of the development proposal on the significance of identified heritage assets and their settings will be a material consideration in determining a planning application. This assessment has established that there is a historic environment interest within the Site.
- 6.1.2 It has been ascertained that the development will not have an impact on the setting of Cornwall and West Devon World Heritage Site or on Listed Buildings in the wider landscape.
- 6.1.3 The significance of the HLC within the Site would be reduced as a result of the construction and operation of the Scheme. However, it is recognised that this is not a pristine mining landscape and when viewed at the wider scale of the landscape surrounding Scorrier, it is also not rare and is relatively well understood. Overall, on balance the effect on the significance of the HLC is considered to be limited.
- 6.1.4 A single Listed Building is located within the Site and the present setting of the building is considered to contribute to the significance of the heritage asset. The proposed development may result in a negative impact on this setting. It is advised that a scheme redesign may be necessary to remove Reed Bed #1 from the immediate vicinity of the chimney stack.
- 6.1.5 The archaeological interest within the Site is defined by known and potential features relating to the mining industry. The aboveground shafts will not be impacted on directly, however, the planned excavation of ponds within the Site would result in a direct impact on potential buried remains. This impact is reduced by the presence of well documented data about the mine's history and development. However, there is a potential for previously unrecorded mining features from earlier periods and for the presence of structural remains related to an engine house.

- 6.1.6 In line with PPS 5 Policy HE6.1, further investigation of the archaeological resource within the Site may be required by the County Archaeologist to inform any planning decision. The need for and scope of any further investigations should be established through consultation with the planning archaeologist for Cornwall Council at the earliest opportunity.

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Sharpe, A., Smith, J. and Jenkins, L. 1990: *Mineral Tramways Project. An Archaeological Assessment of the Industrial Landscape between Devoran, Portreath and Troon, with an Evaluation of the Potential of the Disused Mineral Railways and Mines Contained in that Area,* Cornwall Archaeological Unit

Sharpe, A., Lewis, R., Massie, C. and Partners and Johnson, N. 1991: *Engine House Survey, the Mineral Tramways Project. An Historical, Architectural and Structural Assessment of Surviving Engine Houses and Arsenic Calciners in the Mineral Tramways Project Area,* Cornwall, Cornwall Archaeological Unit

Sharpe, A. 1993: *Kerrier Land Reclamation Scheme. Wheel Plenty (North Briggan) Archaeological Assessment,* Cornwall Archaeological Unit client report, HES No. 1993R031

South-West Mining Services Limited 2000: *Stage 2 Geotechnical Mining Report, Portreath Tramroad Phase I,* Penzance, HES No. ER249

Spargo, T. 1865: *The Mines of Cornwall, vol. 4: Redruth Area,* Truro 1961

Todd, M. 1987: *The South-West to AD 1000.* London

Williams, R. 2001: *An Archaeological Assessment of the Hallenbeagle Mine, Scorrier,* unpublished client report - HES No. ER433

World Heritage Site Bid Team 2004a: *Nomination of the Cornwall and West Devon Mining Landscape for the Inclusion of the World Heritage List,* Cornwall County Council, <http://whc.unesco.org/uploads/nominations/1215.pdf>

World Heritage Site Bid Team 2004b: *Cornwall and West Devon Mining Landscape. World Heritage Site Management Plan 2005-2010,* Cornwall County Council, HES Ref. 2005R046

## **7.2 Historic Environment Records**

Cornwall and Scilly Historic Environment Record (CSHER)

Cornish Studies Library (CSL), Redruth

## **7.3 Cartographic and Documentary Sources**

1819 Richard Thomas' map of mining in Gwennap and Redruth (CSHER)

Ordnance Survey maps:

1886 First Edition 25"

1908 Second Edition 25"

1962-1963 revision 1:10,560

1982-1991 revision 1:10,000

#### **7.4 Online resources**

<http://ads.ahds.ac.uk>

<http://www.communities.gov.uk/publications/planningandbuilding/pps5>

<http://www.cornishmining.net/>

<http://www.cornwall.gov.uk/Default.aspx?page=2786>

<http://www.english-heritage.org.uk/publications/heritage-assets-draft/heritage-assets-draft.pdf>

<http://www.legislation.gov.uk/ukpga/1990/9/contents>

<http://www.magic.gov.uk>

<http://list.english-heritage.org.uk/>

[http://maps.bgs.ac.uk/geologyviewer\\_google/googleviewer.html](http://maps.bgs.ac.uk/geologyviewer_google/googleviewer.html)

<http://www.old-maps.co.uk/index.html>

[http://pastscape.english-heritage.org.uk/hob.aspx?hob\\_id=427886](http://pastscape.english-heritage.org.uk/hob.aspx?hob_id=427886)

<http://planning.cornwall.gov.uk/online-applications/>

## APPENDIX 1: GAZETTEER OF INFORMATION SUMMARISED FROM THE CORNWALL AND SCILLY HER

WA No	CSHER No.	Name	Monument type	Period	Description	Easting	Northing
1	MCO32338	WHEAL ROSE - Post Medieval nonconformist chapel	NONCONFORMIST CHAPEL	Post-medieval	Wayside Bible Christian chapel, now used as store. Mid-late C19. Killas rubble with granite dressings and brick arches; original scantle slate roof.	171600	45210
2	MCO13113	WHEAL ROSE - Post Medieval mine	MINE	Post-medieval	Wheal Rose was a rich copper mine working in 1739 (b7,b8) and produced copper and tin between 1819 and 1876 (b7). The mine included Great North Downs (b5) and was also known as Rose United in 1873 (b2). The OS map of 1878 shows engine houses at SW 7166 4498 and 7167 4505; a smithy at SW 7199 4477; Old Wheal Rose at SW 722 447 (disused); and a chimney at SW 7215 4466 (b3).	171700	45000
3	MCO12714	TREWAN - Post Medieval mine	MINE	Post-medieval	The site was known as North Trewen Mine in about 1819, to be worked again as North Hallenbeagle Mine between 1860-1865 producing tin.	171888	44985
4	MCO12310	NORTH BRIGGAN - Post Medieval mine	MINE	Post-medieval	North Briggan mine is described by Collins as having been an old work in 1819.	171100	44900
5	MCO39050	WHEAL HAWKE - Post Medieval mine	MINE	Post-medieval	An eighteenth century copper producer later incorporated into the Great Briggan sett	171647	44764
6	MCO11890	WHEAL	MINE	Post-medieval	Also known as Great Briggan, this mine	171300	44600



WA No	CSHER No.	Name	Monument type	Period	Description	Easting	Northing
		BRIGGAN - Post Medieval mine			adjoins Great Downs and was an eighteenth century copper producer.		
7	MCO35929	HALLENBEAGLE - Post Medieval mine	MINE	Post-medieval	A copper producer worked in conjunction with Wheal andrew and Boscawen Mine and later incorporated with Great Wheal Busy United	172600	44600
8	MCO55086	Wheal Rose - Modern Milestone	MILESTONE	Modern	The site of a milestone, Redruth 2 $\frac{1}{2}$ Lands End 30, is recorded at this location on the west side of the old A30, now bypassed.	172356	44550
9	MCO12133	GREAT NORTH DOWNS - Modern mine	MINE	Modern	Great North Downs mine was a very old mine (b2) and included Wheal Hawke, South Wheal Hawke and Wheal Rose, which had been active in the later part of the C18.	171500	44400
10	MCO35738	GREAT NORTH DOWNS - Modern anti aircraft battery	ANTI AIRCRAFT BATTERY?	Modern	Five stone structures, which may be associated with mining operations at Great North Downs, are visible on air photographs (p1) and were plotted as part of the NMP. The appearance of these structures and, in particular, the arrangement of their layout, is reminiscent of WW2 heavy anti-aircraft batteries and although there is no record of a battery at this location; it is possible that work on a battery was begun but never completed.	171500	44400
11	MCO25193	NORTH DOWNS - Post Medieval blowing house	BLOWING HOUSE	Post-medieval	The blowing house at north downs is said to have been extant in c.1700 (B1) (although this should be checked). No remains are now visible (b3) and there is no further information in the industrial register.	171200	44380

WA No	CSHER No.	Name	Monument type	Period	Description	Easting	Northing
12	MCO12502	SCORRIER - Post Medieval mine	MINE	Post-medieval	Scorrier wolfram mine which was a wolfram trial is mentioned by Dines.	172026	44367
13	MCO39104	SCORRIER - Post Medieval mine	MINE	Post-medieval	Marked on Hamilton Jenkin's map, a mine about which very little is known.	172619	44334
14	MCO13050	WHEAL MESSER - Post Medieval mine	MINE	Post-medieval	Wheal Messer was in operation in 1819 but is described by Hamilton Jenkin as a very poor mine.	171200	44300
15	MCO46741	SOUTH HAWKE - Post Medieval mine	MINE	Post-medieval	The mine is believed to have been in operation from the early 1800s. It later became part of Great North Downs. It was prospected and investigated in the Second World War (1938-1942) for wolfram which was discovered on the dumps of Great North Downs.	171793	44280
16	MCO55397	SCORRIER - Post medieval railway bridge	RAILWAY BRIDGE	Post-medieval	A bridge carrying the line of the West Cornwall Railway over a lane.	172381	44254
17	MCO33416	SCORRIER - Post Medieval nonconformist chapel	NONCONFORMIST CHAPEL	Post-medieval	Wesleyan chapel, possibly by James Hicks. Local rubble with granite dressings; steep dry slate roof. One of the best Gothic style examples of this date in Cornwall.	172320	44240
18	MCO52226	SCORRIER - Post Medieval sunday school, Post Medieval nonconformist chapel	NONCONFORMIST CHAPEL, SUNDAY SCHOOL	Post-medieval	A Wesleyan Methodist chapel is recorded on the 1st Edition 1:2500 1880 OS Map at Scorrier to the south of the railway line. By 1907 this building had become the Sunday school a new chapel 139215 being constructed to the north which is still in use.	172400	44230
19	MCO55396	SCORRIER - Post medieval railway bridge	RAILWAY BRIDGE	Modern	A bridge carrying the GWR main line over the public road.	172315	44188

WA No	CSHER No.	Name	Monument type	Period	Description	Easting	Northing
20	MCO16727	SCORRIER - Medieval settlement	SETTLEMENT	Medieval	The settlement of Scorrier is first recorded in 1331.	172345	44148
21	MCO50265	SCORRIER - Post Medieval railway station	RAILWAY STATION	Post-medieval	Scorrier Gate station was opened by the West Cornwall Railway in 1852.	172244	44127
22	MCO55395	SCORRIER - Post medieval railway bridge	RAILWAY BRIDGE	Post-medieval	A bridge carrying the line of the West Cornwall Railway over the Poldice Plateway.	172222	44111
23	MCO33135	RADNOR - Post Medieval nonconformist chapel	NONCONFORMIST CHAPEL	Post-medieval	Small wayside Bible Christian chapel, probably later used as the Sunday school for 1907 chapel nearby, disused for many years. Probably mid C19.	170920	44070
24	MCO33136	RADNOR - Modern nonconformist chapel	NONCONFORMIST CHAPEL	Modern	United Methodist chapel, probably built to supercede the older Bible Christian chapel across the road, disused and for sale at time of survey.	170970	44060
25	MCO55394	SCORRIER - Post medieval railway bridge	RAILWAY BRIDGE	Modern	A bridge carrying the GWR main line over the public road.	172105	44043
26	MCO12857	WHEAL CHANCE - Post Medieval mine	MINE	Post-medieval	This eighteenth century copper producer was amalgamated with Treskerby.	171900	44000
27	MCO55392	SCORRIER - Post medieval railway bridge	RAILWAY BRIDGE	Post-medieval	A bridge carrying the line of the West Cornwall Railway over a lane.	171813	43954
28	MCO55035	NORTH TRESKERBY - Post Medieval shaft	SHAFT	Post-medieval	The location of Foxes Shaft. Capped in 2000	171594	43820

WA No	CSHER No.	Name	Monument type	Period	Description	Easting	Northing
29	MCO12833	WHEAL BOYS - Post Medieval mine	MINE	Post-medieval	An eighteenth century copper working abandoned by 1819 but worked during the 1870s	171195	43806
30	MCO55036	NORTH TRESKERBY - Post Medieval shaft	SHAFT	Post-medieval	An unnamed shaft with no apparent buildings associated with it.	171617	43789
31	MCO55037	NORTH TRESKERBY - Post Medieval shaft	SHAFT	Post-medieval	The site of a possible shaft recorded on an 1861 map.	171661	43774
32	MCO12674	NORTH TRESKERBY - Post Medieval mine	MINE	Post-medieval	Not to be confused with Treskerby, North Treskerby was formerly known as Truan Mine.	171700	43700

## APPENDIX 2: NATIONAL AND LOCAL HISTORIC ENVIRONMENT POLICIES

### National planning policy

Policy Ref.	Title	Scope
n/a	Ancient Monuments and Archaeological Areas Act 1979 (as amended)	Scheduled Monuments and Archaeological Areas of Importance (AAs or their equivalent) are afforded statutory protection and the consent of SoS (DCMS), as advised by English Heritage (EH), is required for any works.
n/a	Planning (Listed Buildings and Conservation Areas) Act 1990	Works affecting Listed Buildings and Conservation Areas are subject to additional planning controls administered by Local Planning Authorities (LPAs). EH are a statutory consultee in works affecting Grade I or II* Listed Buildings.
<b>PPS Policy HE4</b>	5: Permitted development and article 4 directions	Local planning authorities should consider whether the exercise of permitted development rights would undermine the aims for the historic environment. If it would, local planning authorities should consider the use of an article 4 direction to ensure any development is given due consideration.
<b>PPS Policy HE6</b>	5: Information requirements for application for consent affecting heritage assets	An applicant must provide a description of the significance of the assets affected and the contribution of their setting to that significance, together with an assessment of the impact of the proposals.
<b>PPS Policy HE7</b>	5: Principles guiding determination of applications for consent relating to all heritage assets	In considering the impact of a proposal on any asset, LPAs should take into account: the particular nature of the significance of the heritage asset; the desirability of sustaining and enhancing the significance of heritage assets; the positive contribution that conservation can make to the establishment and maintenance of sustainable communities and economic vitality; and the desirability of new development making a positive contribution to the character and distinctiveness of the historic environment.
<b>PPS Policy HE8</b>	5: Additional principle guiding consideration of applications for consent relating to heritage assets not covered by Policy HE9	The effect of an application on the significance of an asset or its setting is a material consideration in determining a planning application.

<b>Policy Ref.</b>	<b>Title</b>	<b>Scope</b>
<b>PPS Policy HE9</b>	5: Additional principles guiding consideration of application for consent relating to designated heritage assets	Presumption is in favour of the conservation of designated assets and the more significant the designated asset, the greater the presumption should be. Loss affecting a designated asset requires clear and convincing justification. Consent should be refused where an application would lead to substantial harm or total loss of significance unless it can be demonstrated that it is necessary and will deliver substantial public benefits that outweigh that harm or loss. Where a proposal would have a less than substantial harm, planning authorities should weigh the public benefit of the proposal against the harm. Many assets are not currently designated but are demonstrably of equivalent significance. The absence of designation for such assets does not indicate a lower significance.
<b>PPS Policy HE10</b>	5: Additional principles guiding consideration of applications for development affecting the setting of a designated asset	In considering applications that affect the setting of an asset, LPAs should treat favourably applications that preserve those elements of the setting that make a positive contribution to or better reveal the significance of the asset. Where applications do not do this, any harm should be weighed against the wider benefits of the application. The greater the negative impact on the asset's significance, the greater the benefits that will be needed to justify approval.
<b>PPS Policy HE12</b>	5: Principles guiding recording of information related to heritage assets	Where loss of the whole or a material part of an asset's significance is considered justifiable by the LPA, they should require a developer to record and advance understanding of the significance of the asset before it is lost, using conditions or obligations as appropriate.

**Local planning policy: Cornwall County Structure Plan: Saved Policies (adopted 2004)**

Policy	Title	Content
2	Character Areas, Design & Environmental Protection	<p>The quality, character, diversity and local distinctiveness of the natural and built environment of Cornwall will be protected and enhanced. Throughout Cornwall, development must respect local character and:</p> <ul style="list-style-type: none"> <li>• retain important elements of the local landscape, including natural and semi-natural habitats, hedges, trees, and other natural and historic features that add to its distinctiveness;</li> <li>• contribute to the regeneration, restoration, enhancement or conservation of the area;</li> <li>• positively relate to townscape and landscape character through siting, design, use of local materials and landscaping;</li> <li>• create safe, aesthetically pleasing and understandable places;</li> <li>• consider, where appropriate, a mix of uses that create vibrant and active places, including tenure, size and densities.</li> </ul> <p>Local plans should define Character Areas to inform planning decisions taking into account Regional and County-wide landscape assessments.</p> <p>The conservation and enhancement of sites, areas, or interests, of recognised international or national importance for their landscape, nature conservation, archaeological or historic importance, including the proposed World Heritage Site, should be given priority in the consideration of development proposals.</p> <p>Within Areas of Great Landscape Value and other areas or sites of county-wide significance for their biodiversity, geodiversity or historic interest, development proposals will be required to respect those interests.</p>

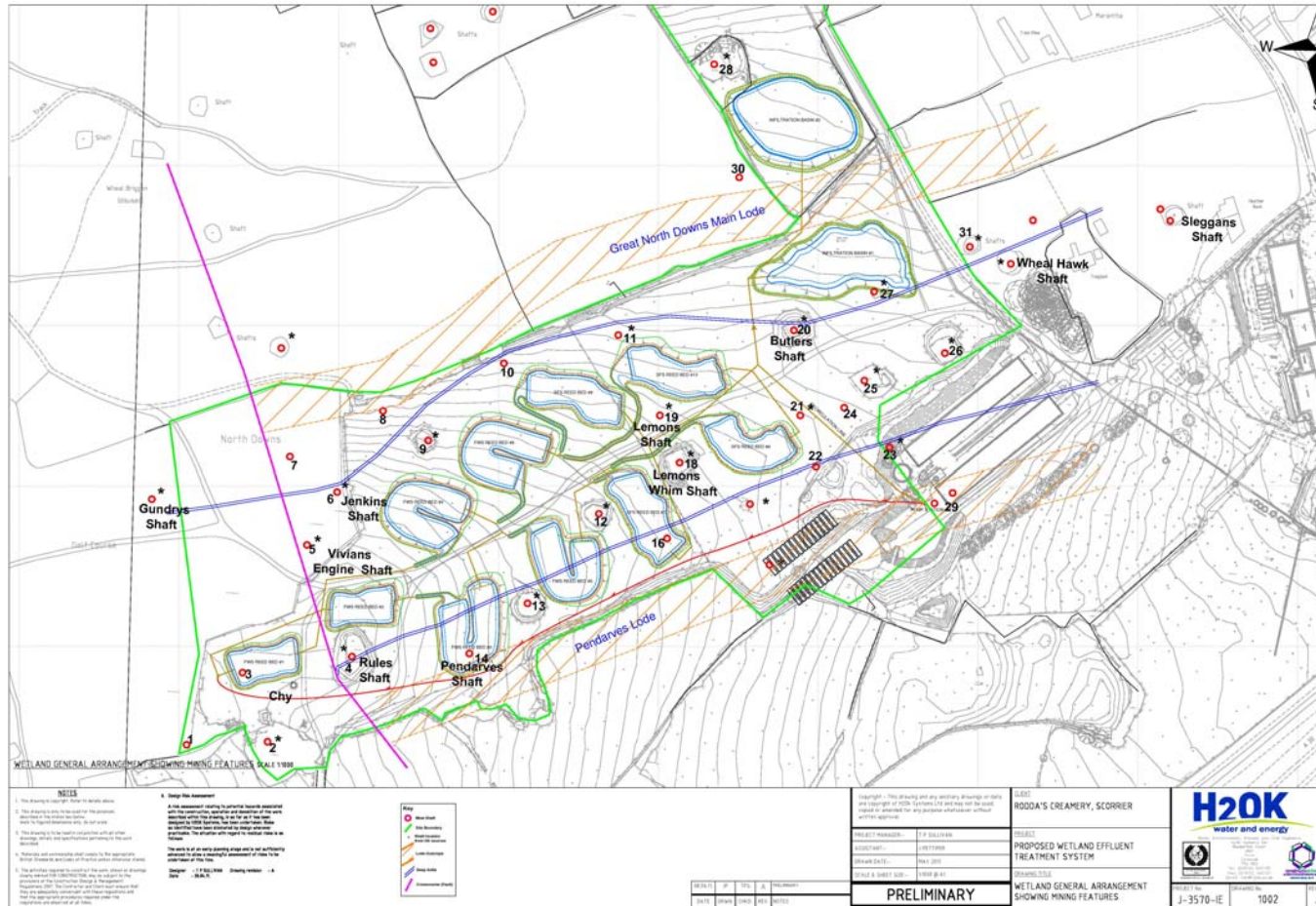
**Local documents which are material consideration: Kerrier District Local Plan Revised Deposit Draft (2004)**

Policy	Title	Content
B.EN1	Historic Heritage Archaeology	<p>– Development that would significantly harm sites, buildings and other remains of archaeological and historic importance, or their setting, will not be permitted unless there is a need for the development and the benefits for the community outweigh the archaeological importance. Where it affects archaeology that is found to be of national importance, development will only be permitted if the remains can be preserved in-situ without significant harm to them and to their setting; where it affects other sites and on-site preservation is impracticable or unnecessary, the development should include excavation and recording of significant remains and a planning</p>

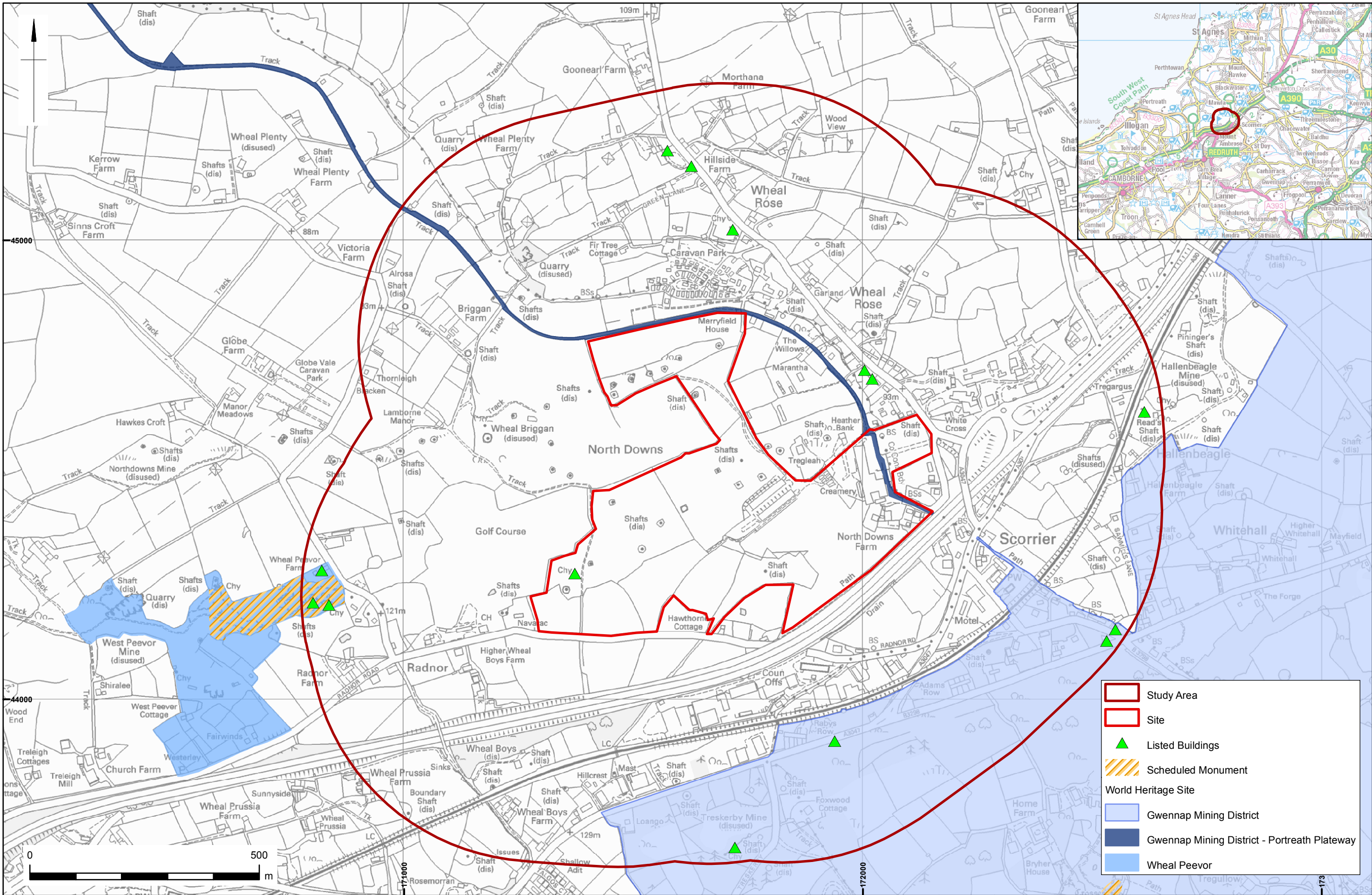
<b>Policy</b>	<b>Title</b>	<b>Content</b>
		obligation to secure this will be sought.
<b>B.EN2</b>	<b>Historic Heritage – Scheduled Ancient Monuments</b>	Development that would significantly harm a Scheduled Ancient Monument, its setting or archaeological interest will not be permitted.
<b>B.EN4</b>	<b>Historic Heritage – Mining remains</b>	Development likely to significantly harm industrial archaeology, mining heritage, historical, industrial and mining buildings and sites, including former mineral railways, tramways, engine houses and chimneys, will not be permitted unless the importance of the archaeology is outweighed by the benefit of the development to the community.
<b>B.EN9</b>	<b>Listed Buildings – Preservation, alteration, extension and change of use</b>	Development involving the alteration, extension or the change of use of a Listed building will be permitted where it has special regard to the desirability of its preservation of its appearance, character, setting and any features of special architectural or historic interest which contribute to its listing and it is compatible with the fabric and interior of the building. Development which would not preserve the Listed Building, its setting or any features of special or historic interest will not be permitted unless it can be demonstrated to be the only way in which the building can be retained.



**APPENDIX 3: KNOWN SHAFT LOCATIONS WITHIN THE SITE (H2OK DRAWING J-3570-1002A)**







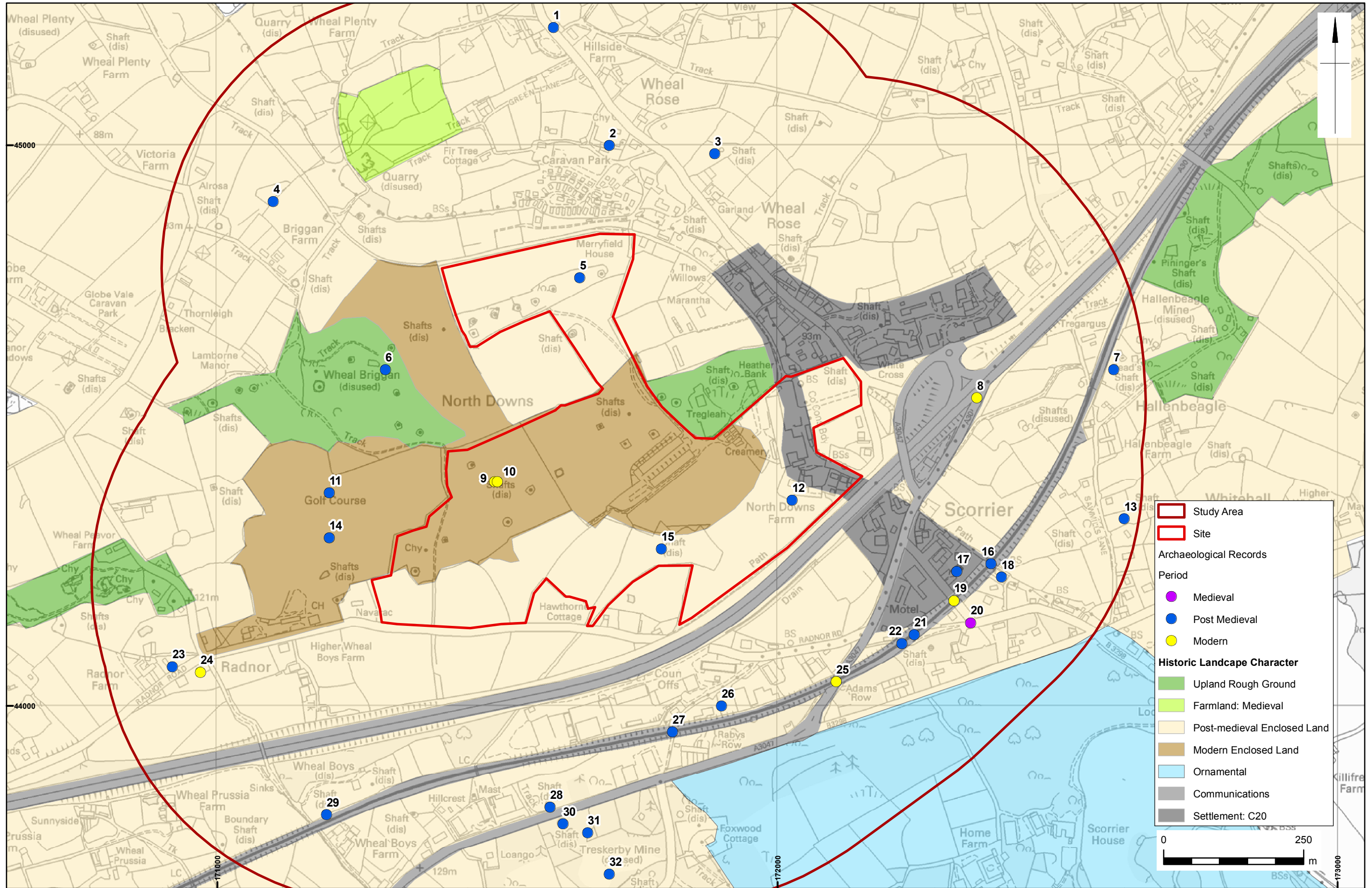
- Study Area
- Site
- ▲ Listed Buildings
- Scheduled Monument
- World Heritage Site
- Gwennap Mining District
- Gwennap Mining District - Portreath Plateway
- Wheal Peavor

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Site location, Study Area and designated heritage assets

Figure 1





Wessex Archaeology

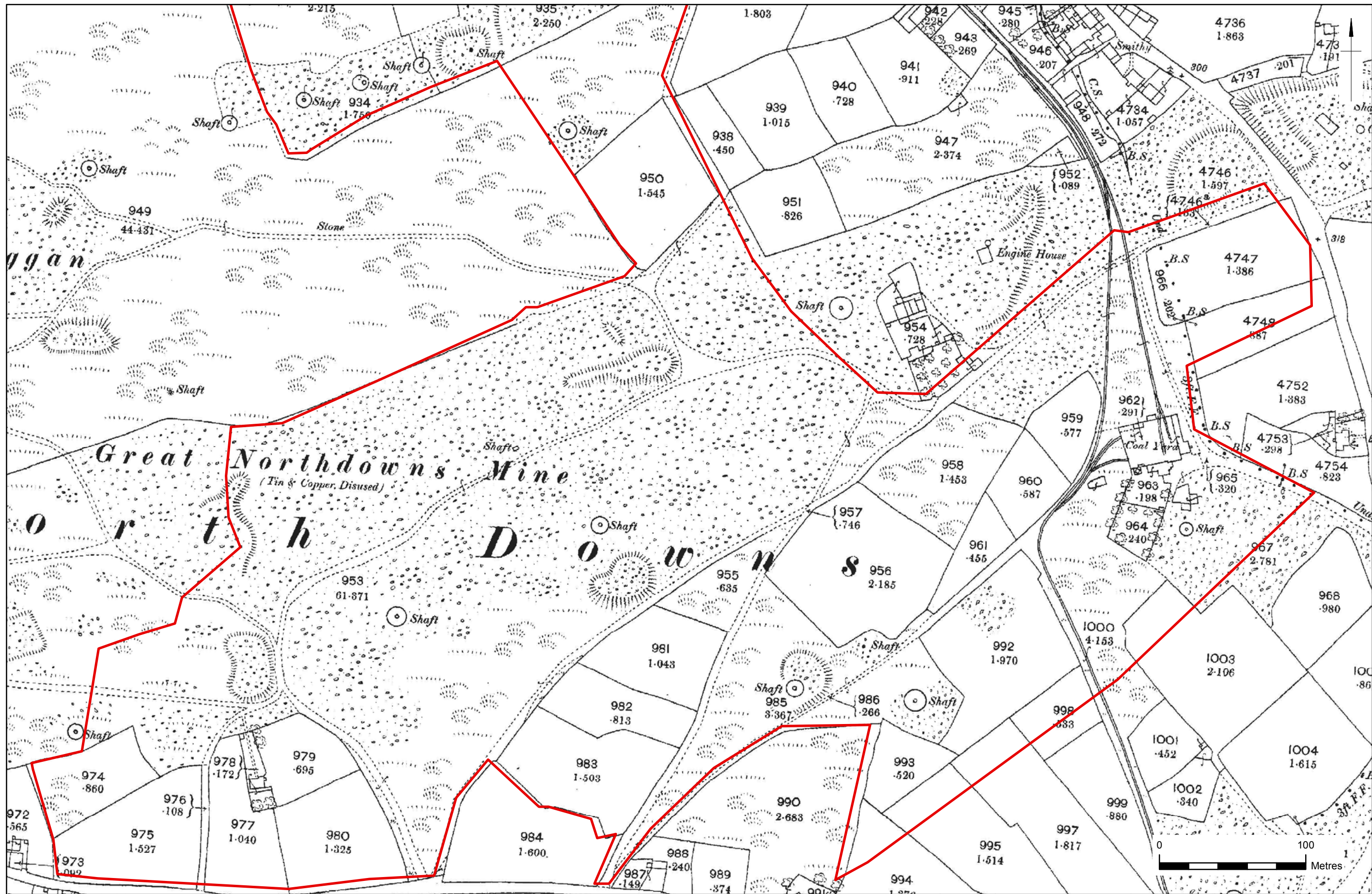
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Site showing information from Cornwall and Scilly HER

Figure 2







 Site

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Site location on 1886 25 inch Ordnance Survey Map

Figure 3











Plate 1: Wall collar at the summit of Shaft 12, view from west



Plate 2: Chimney Stack Listed Building in its present setting, view from north-east

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Plate 3: Chimney Stack Listed Building and engine houses in the landscape, view from west



Plate 4: Chimney Stack Listed Building and surviving mining shafts, view from north-east

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